

FIGURE 1

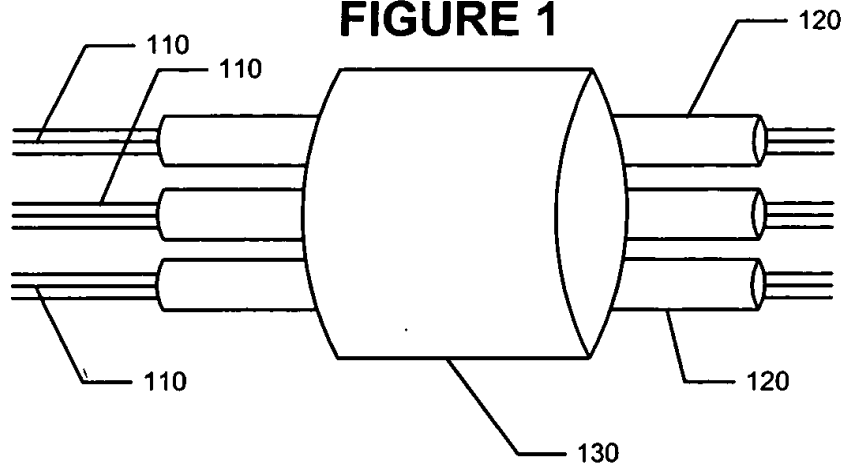
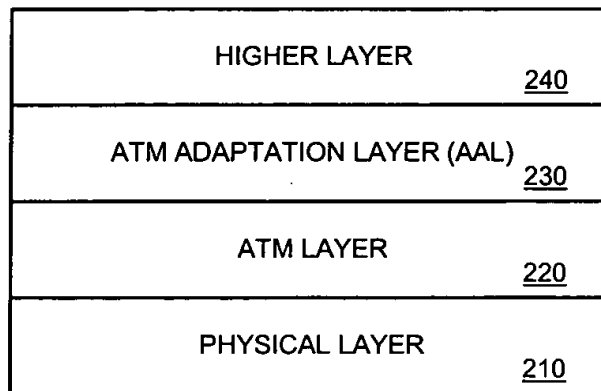
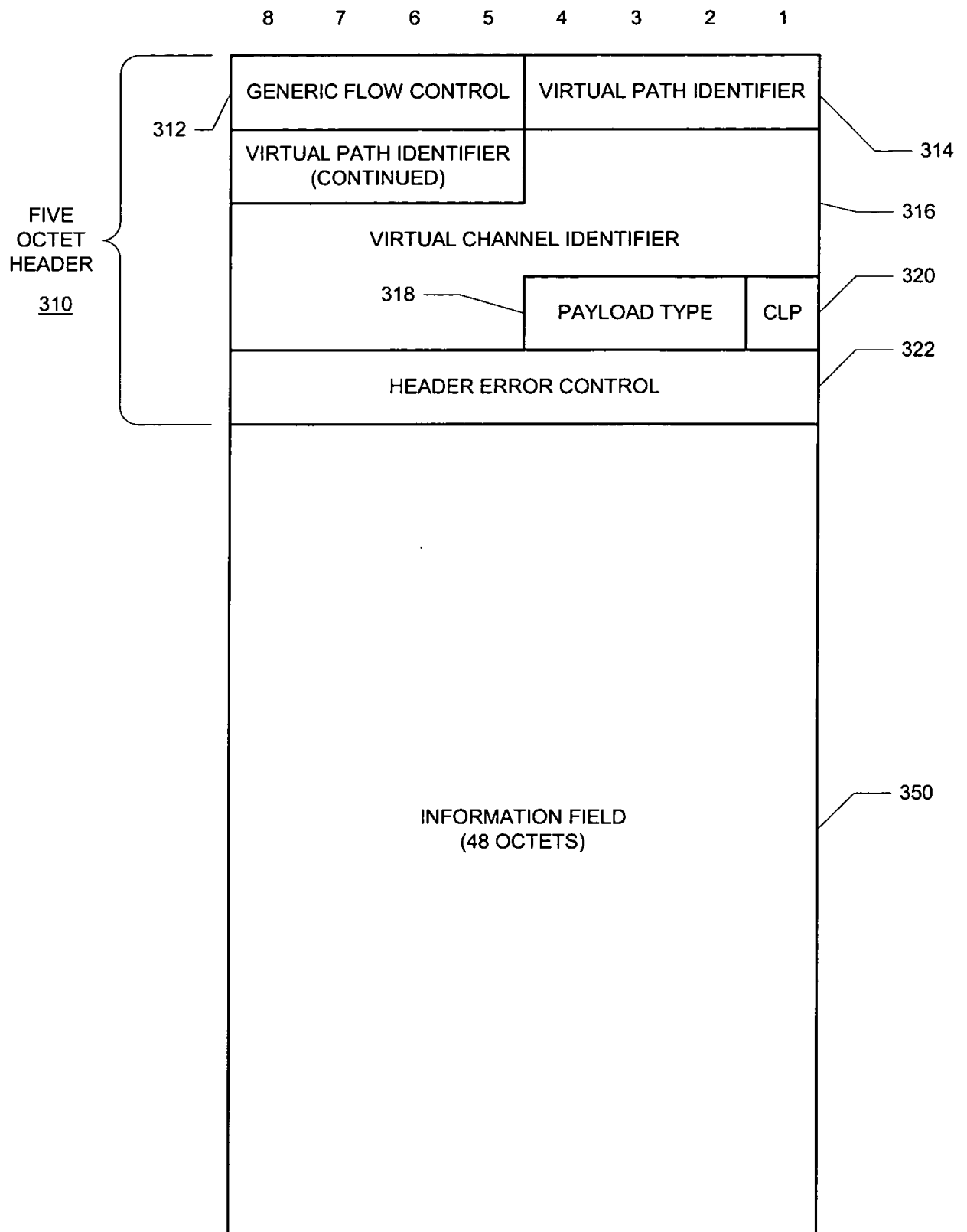


FIGURE 2



0062E0" / 58E560



300

FIGURE 3A

006220" 2458E560

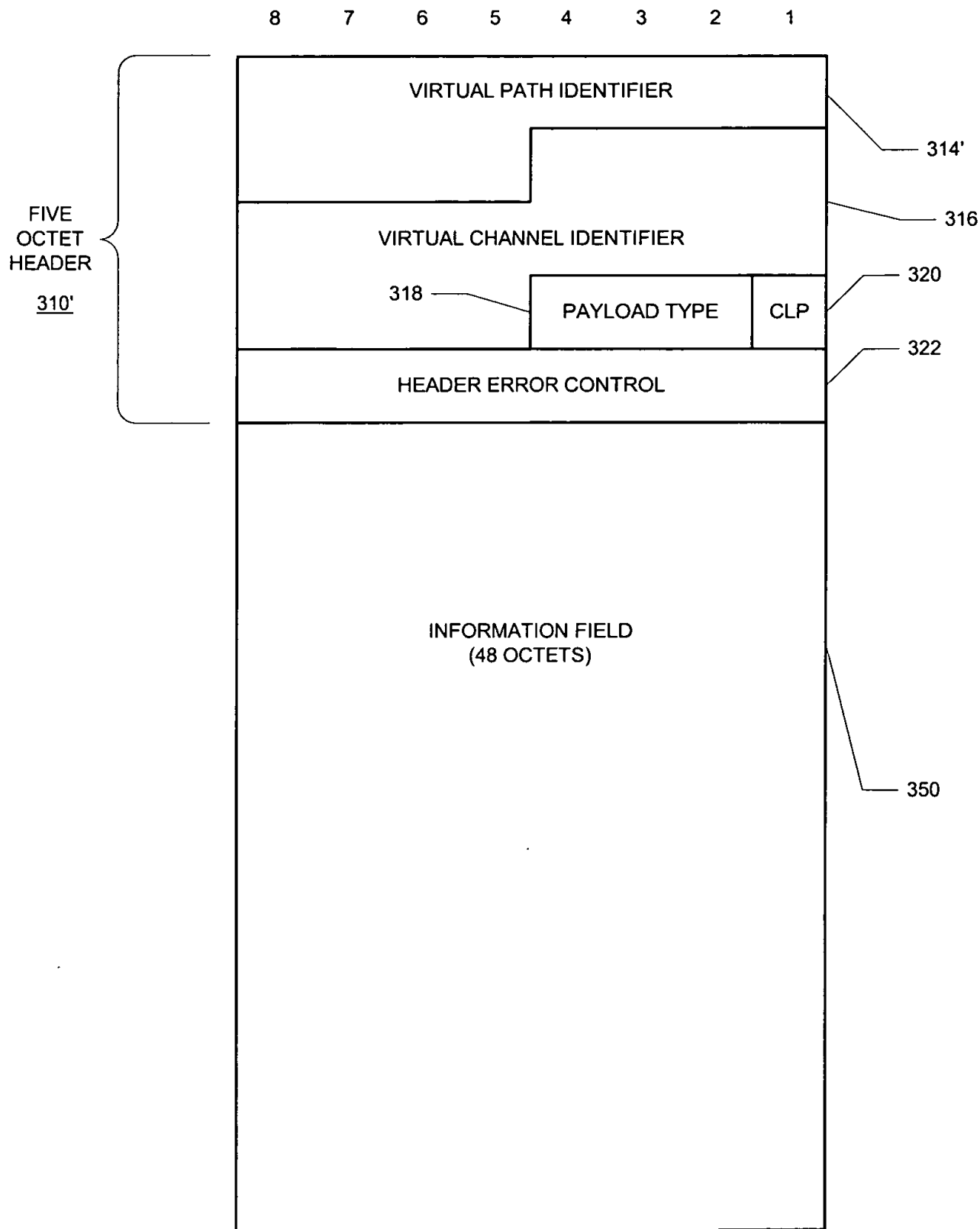


FIGURE 3B

FIGURE 4

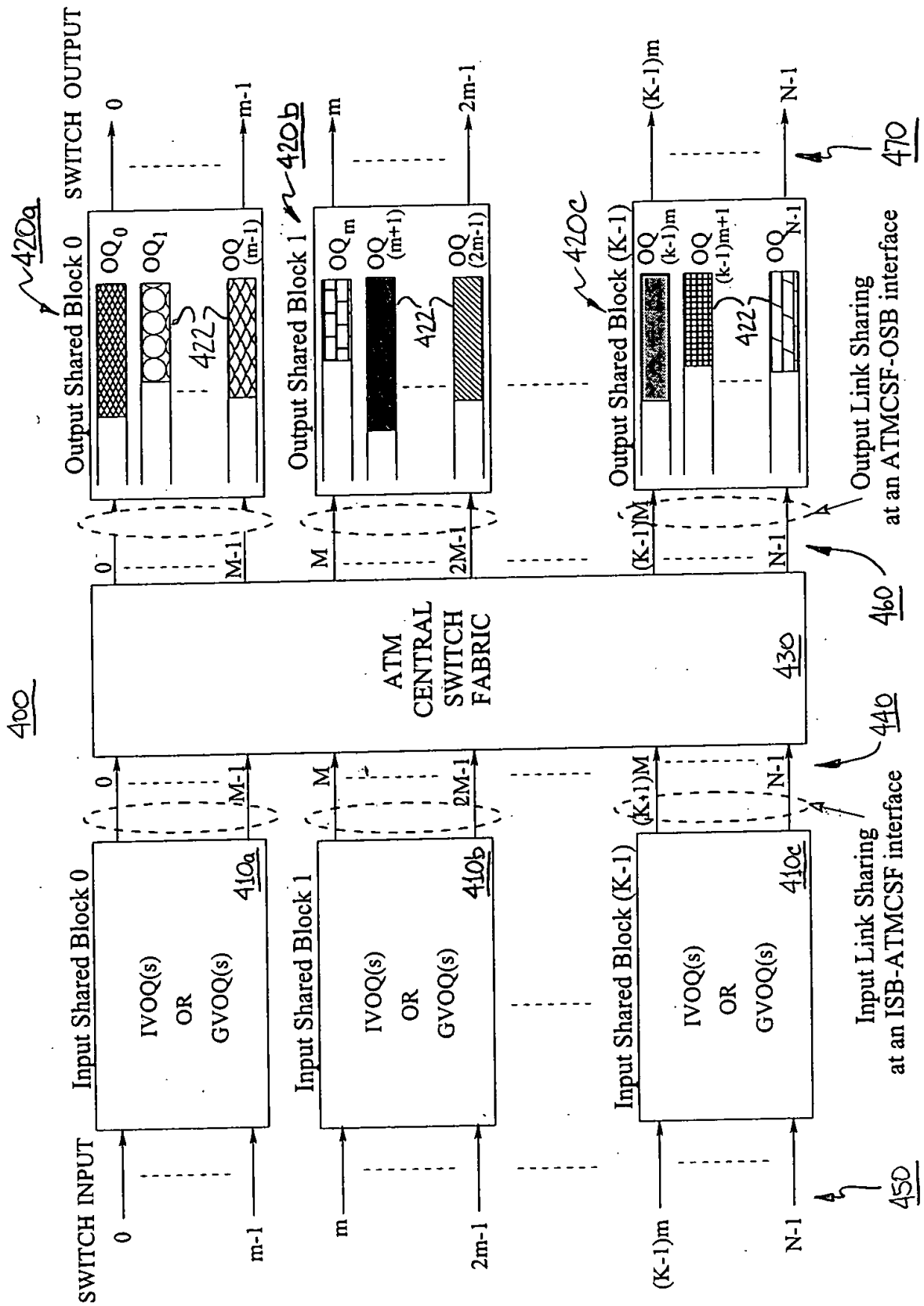


FIGURE 5

410'

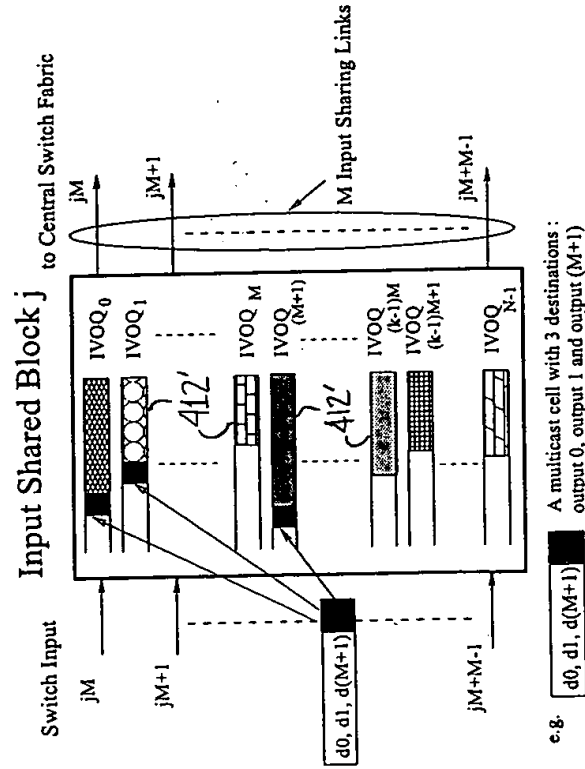


FIGURE 6

410"

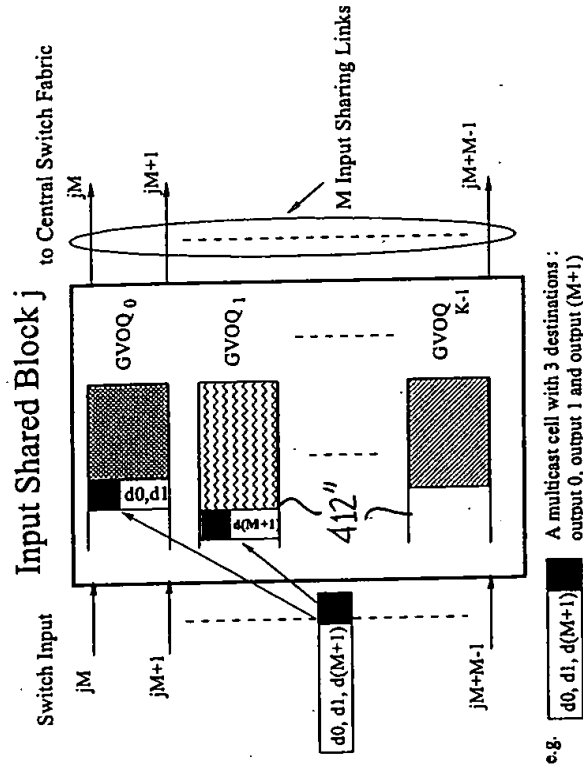


FIGURE 7

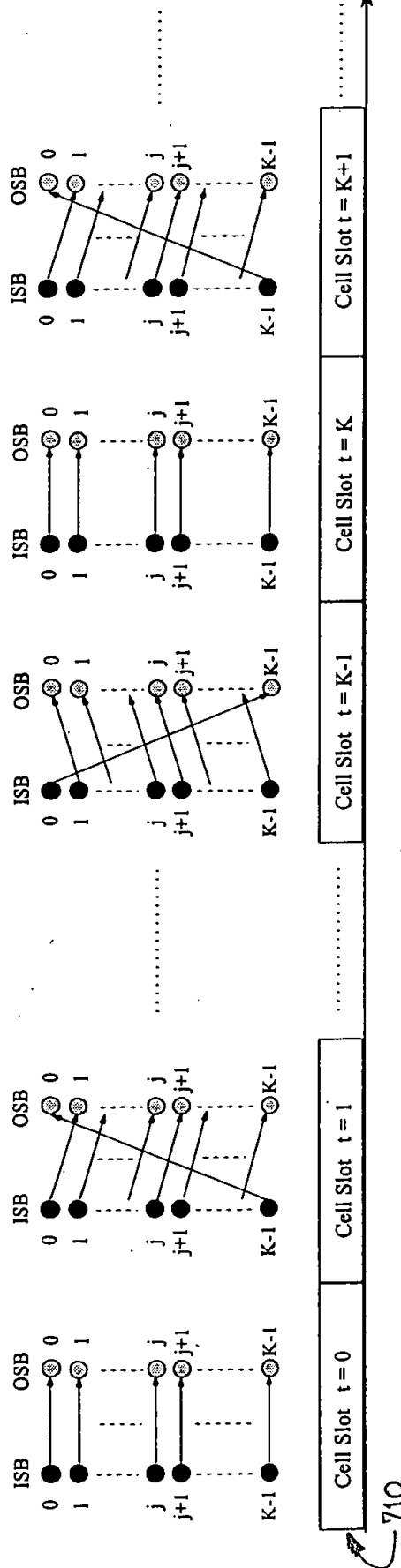


FIGURE 8

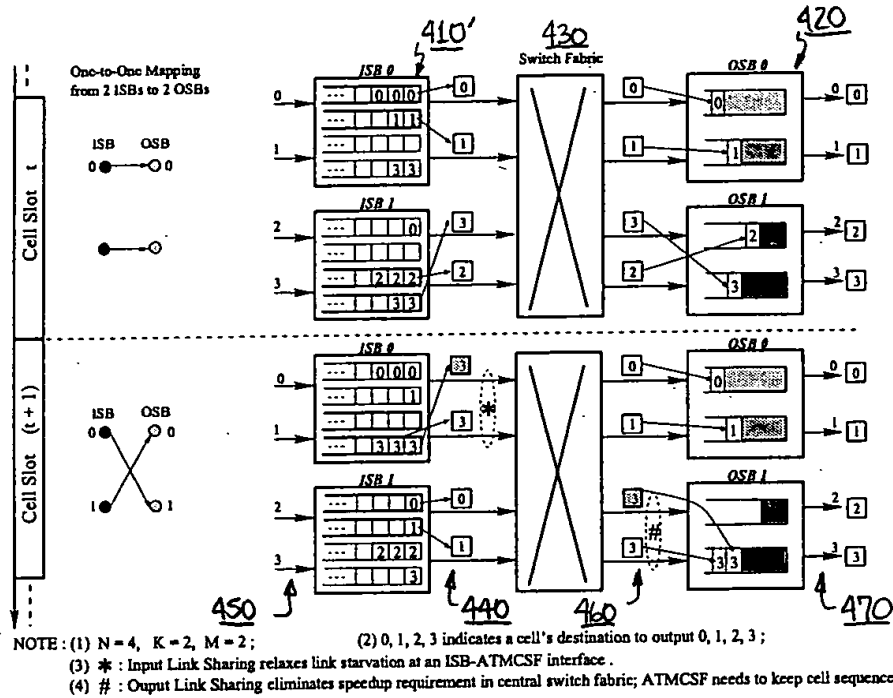


FIGURE 9

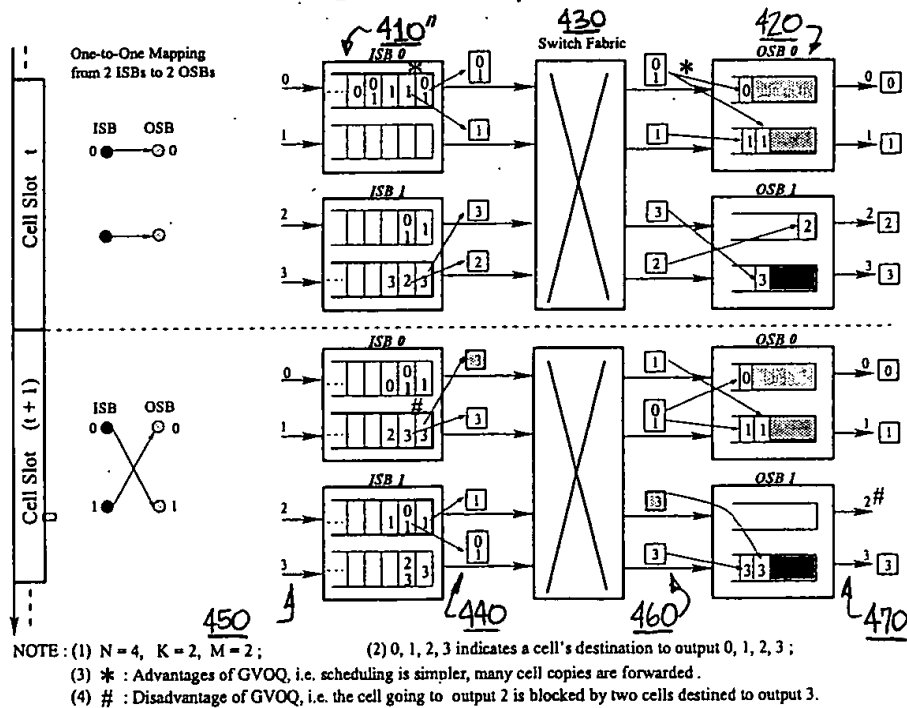
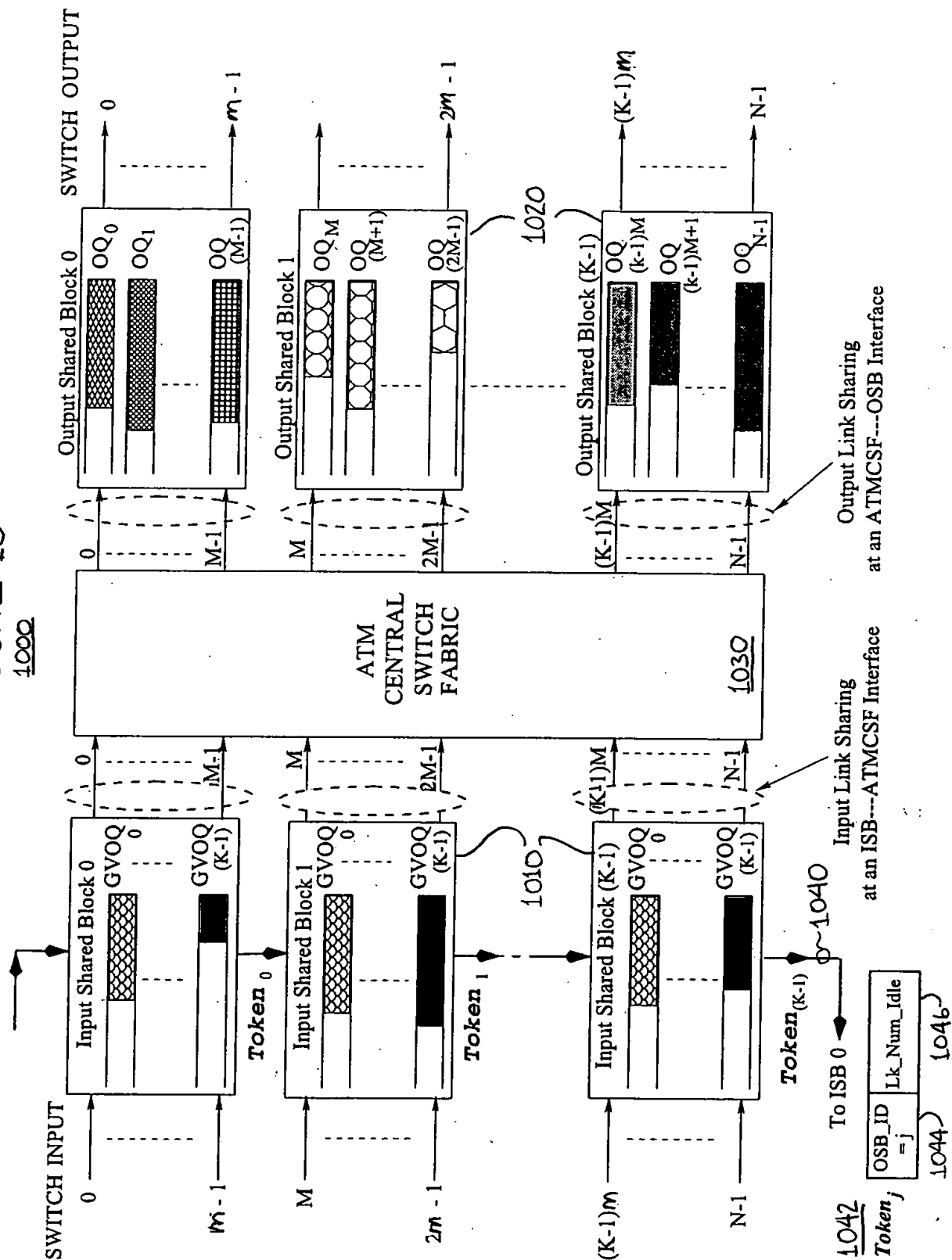


FIGURE 10
1000



006220 " 032900

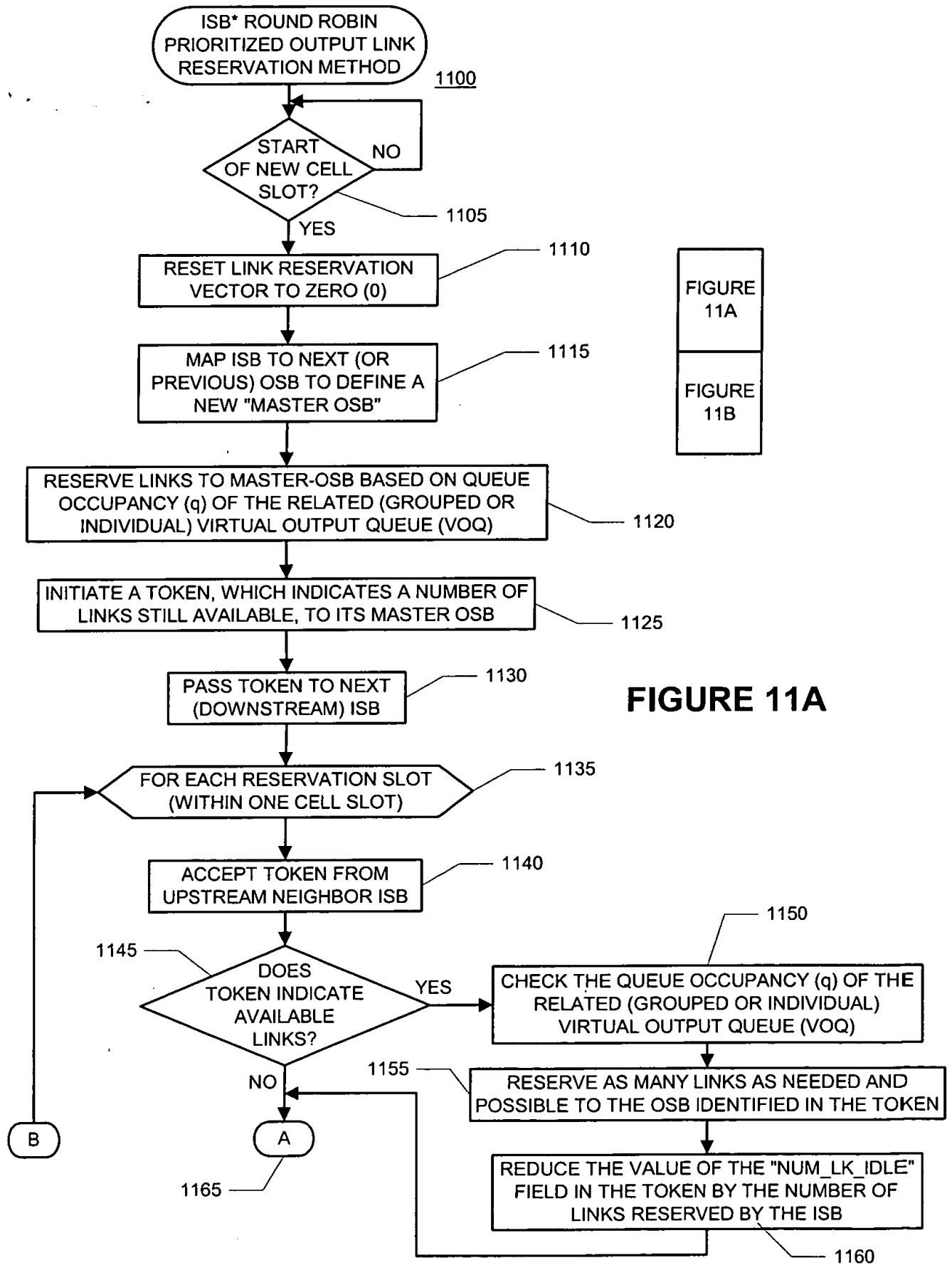


FIGURE
11A

FIGURE
11B

FIGURE 11A

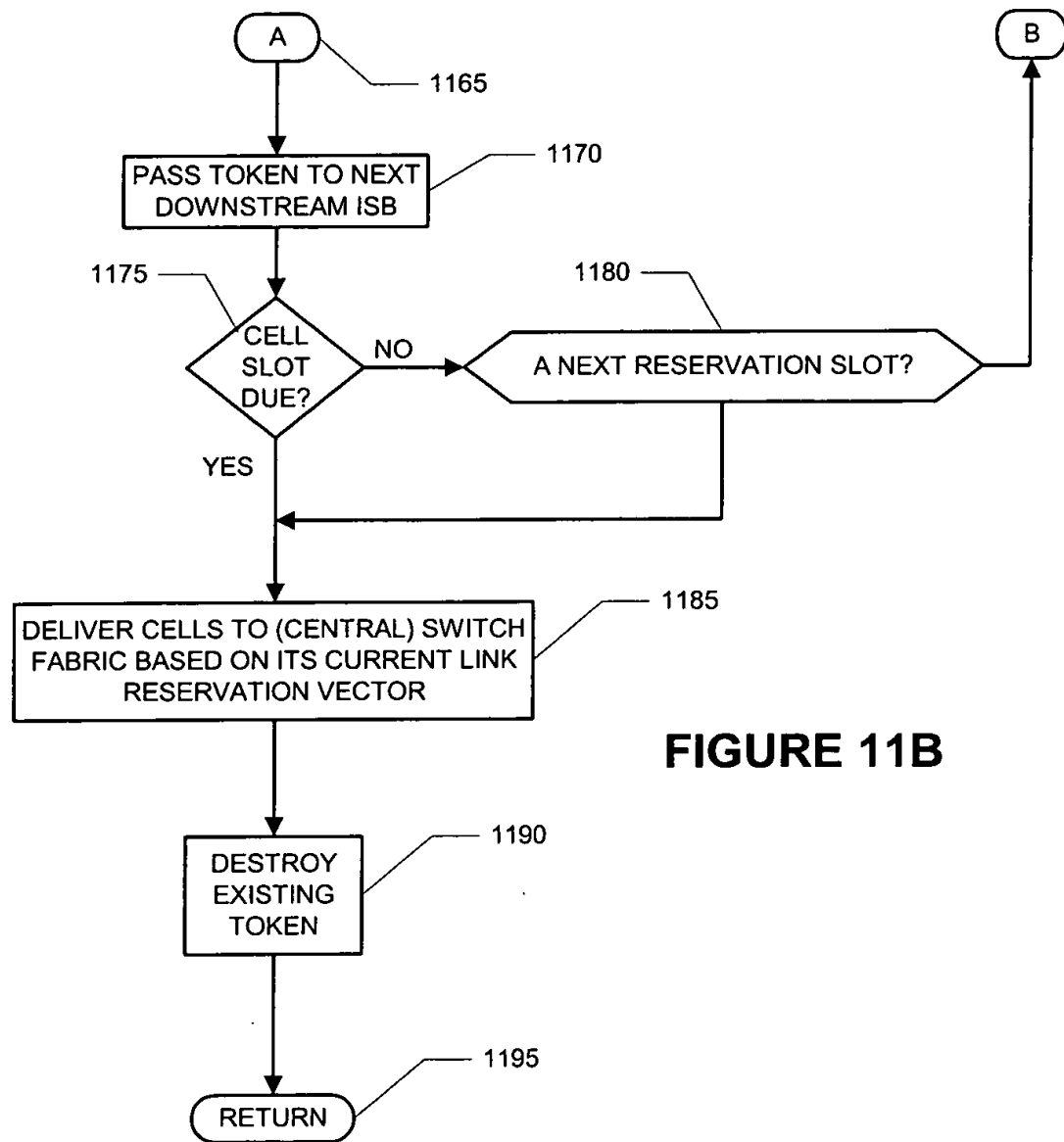
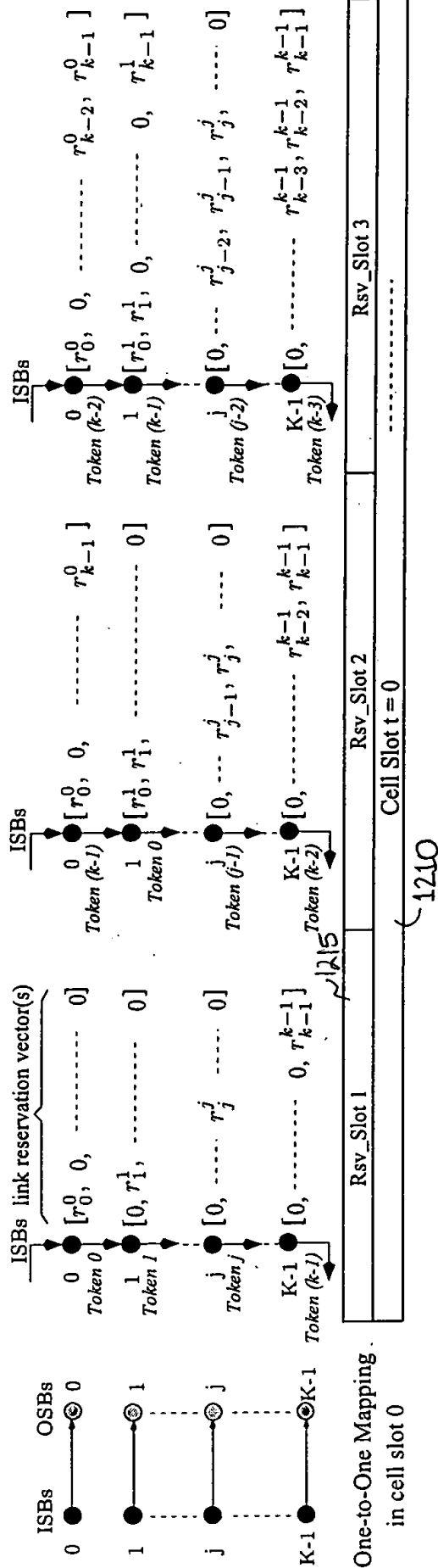


FIGURE 11B

FIGURE 12



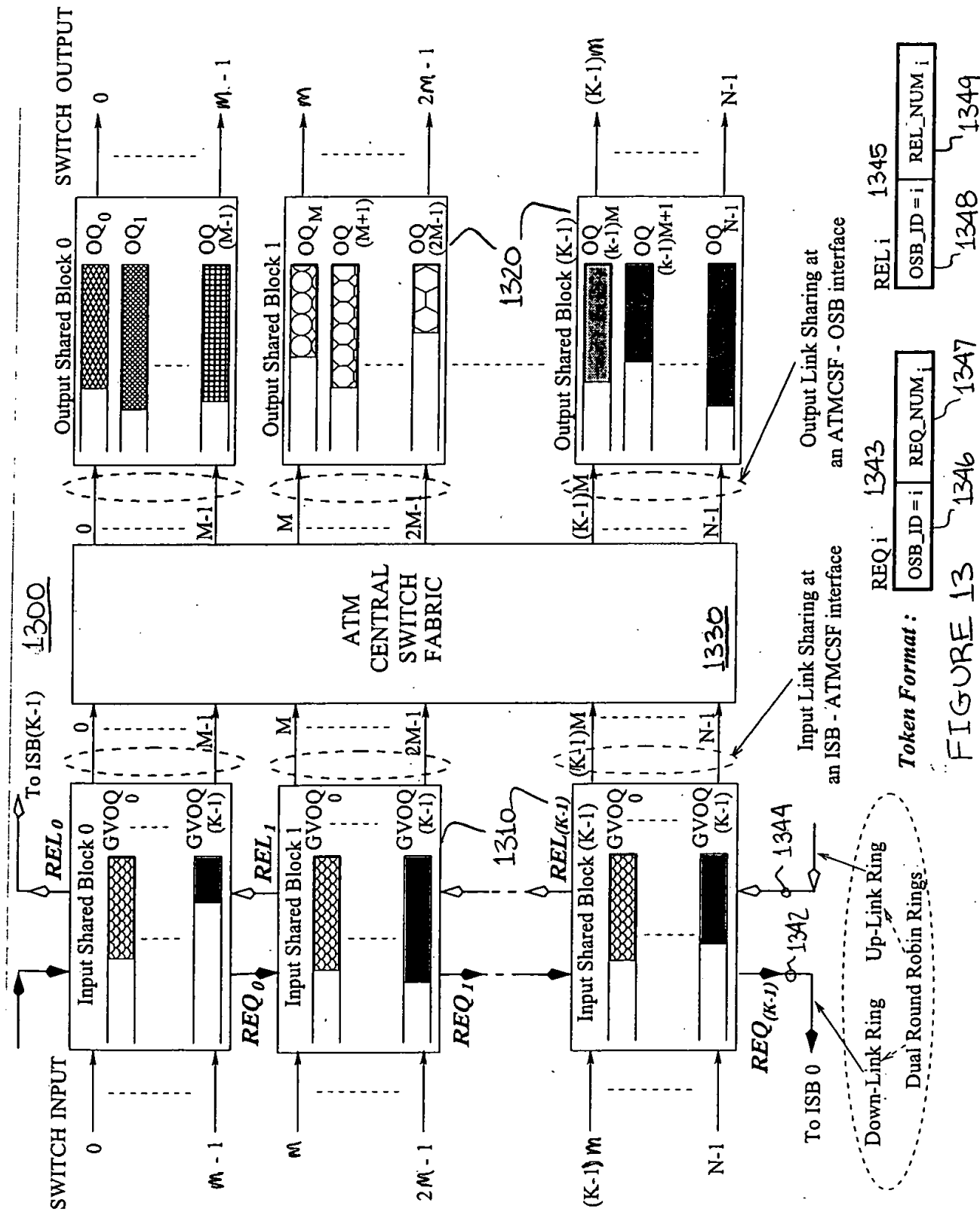


FIGURE 13

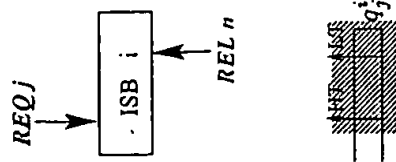


FIGURE 20

| | Queue Occupancy $q_j^i < LT$ (area1: light load) | Queue Occupancy $LT \leq q_j^i \leq HT$ (area2: normal load) | Queue Occupancy $q_j^i > HT$ (area3: heavy load) |
|--|---|---|--|
| Operations Upon Receiving REQ_j (QOBDLR) | the i^{th} ISB will request 0 extra link to the j^{th} OSB ; | | the i^{th} ISB will request 1 extra link to the j^{th} OSB ; |
| | if $((REQ_NUM_j > 0)$ and $(r_j^i > 0))$ then the ISB will release a link for OSB j ; | if $((REQ_NUM_j > 0)$ and $(r_j^i > Fair))$ then the ISB will release a link for OSB j ; | |
| Operations Upon Receiving REL_n | if $(REL_NUM_n > 0)$, and $(\sum_{i=0}^{(k-1)} r_i^i < M)$, and $($ the i^{th} ISB has requested an extra link to the n^{th} OSB) then the i^{th} ISB take a link from REL_n token ; | | |

FIGURE 21

| | IF | | THEN |
|--------|-----------|---------------|---|
| | q_j^i | $s_j^{i,old}$ | REQ_NUM_j |
| case 1 | > HT | 0 | In Step 3, REQ_NUM_j ++; |
| case 2 | | 1 | REQ_NUM_j |
| case 3 | | 0 | REQ_NUM_j |
| case 4 | \leq HT | 1 | if ($REQ_NUM_j > 0$) $s_j^i = 0$; REQ_NUM_j -- ; else $s_j^i = 1$; |

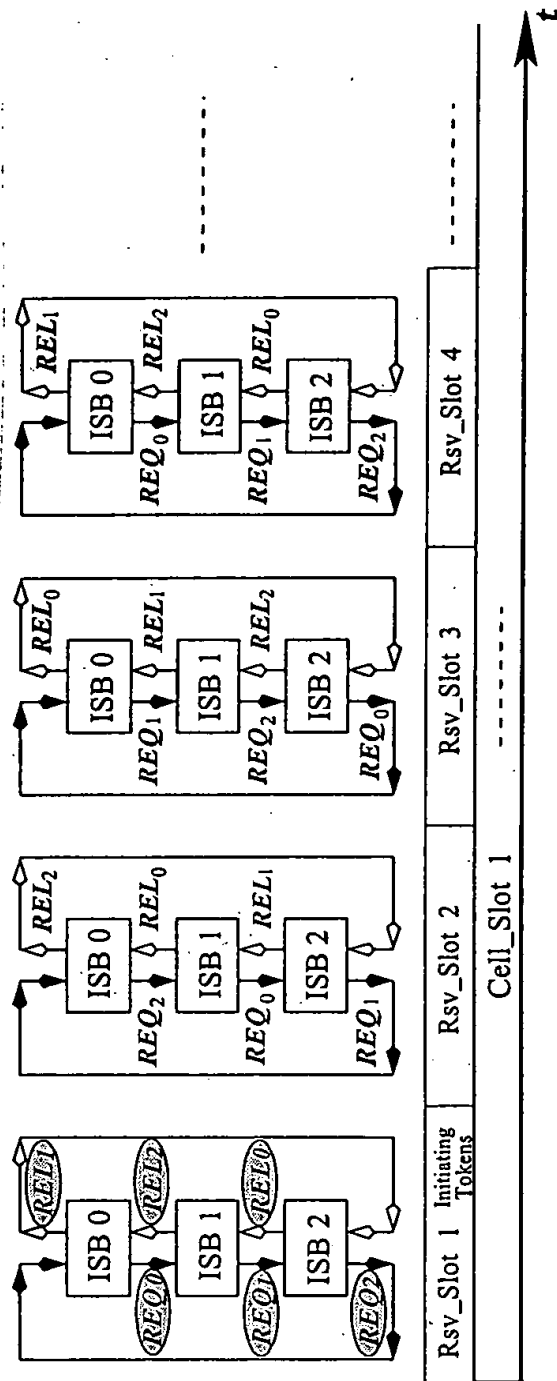
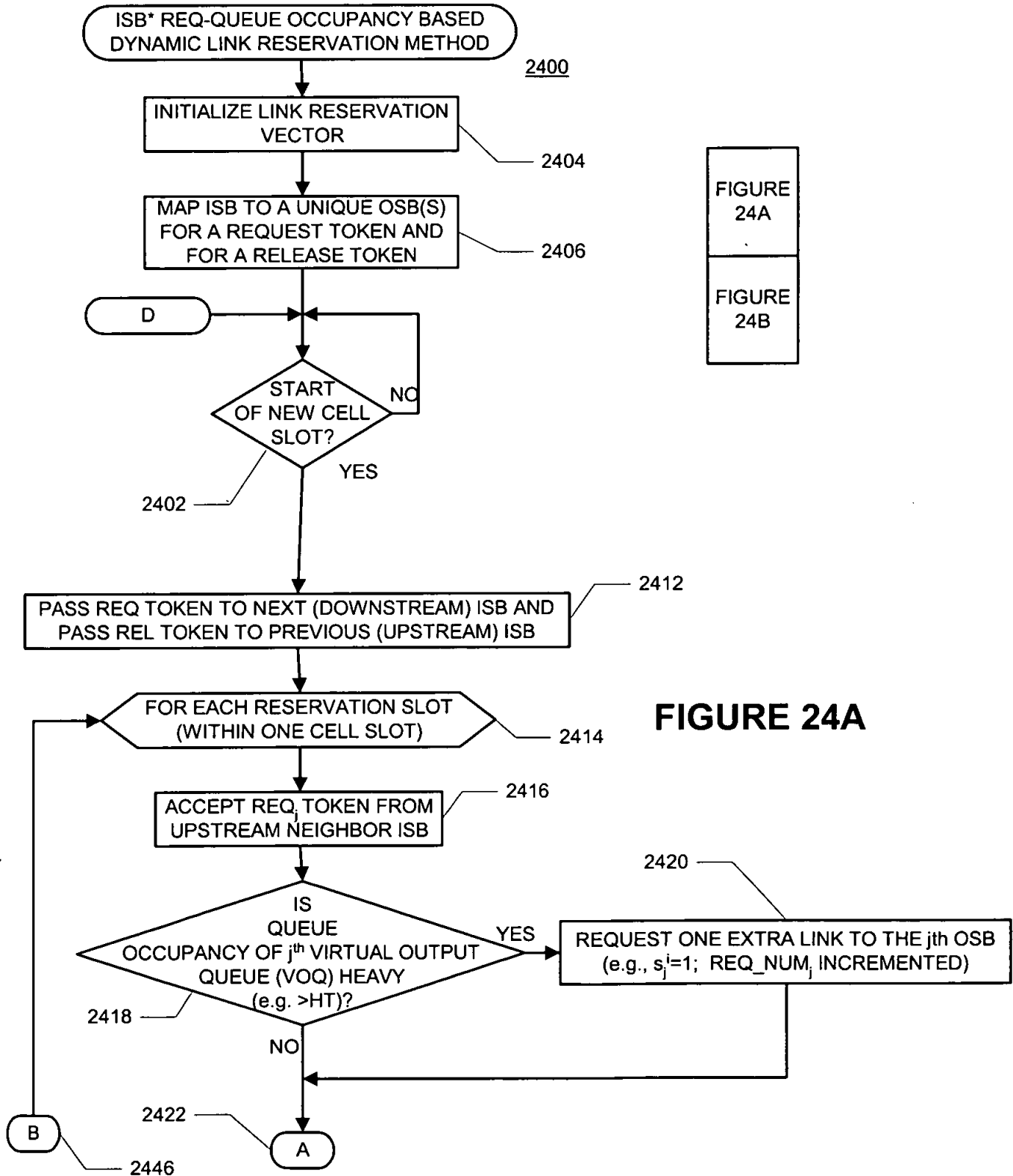


FIGURE 23

00622E0-22900



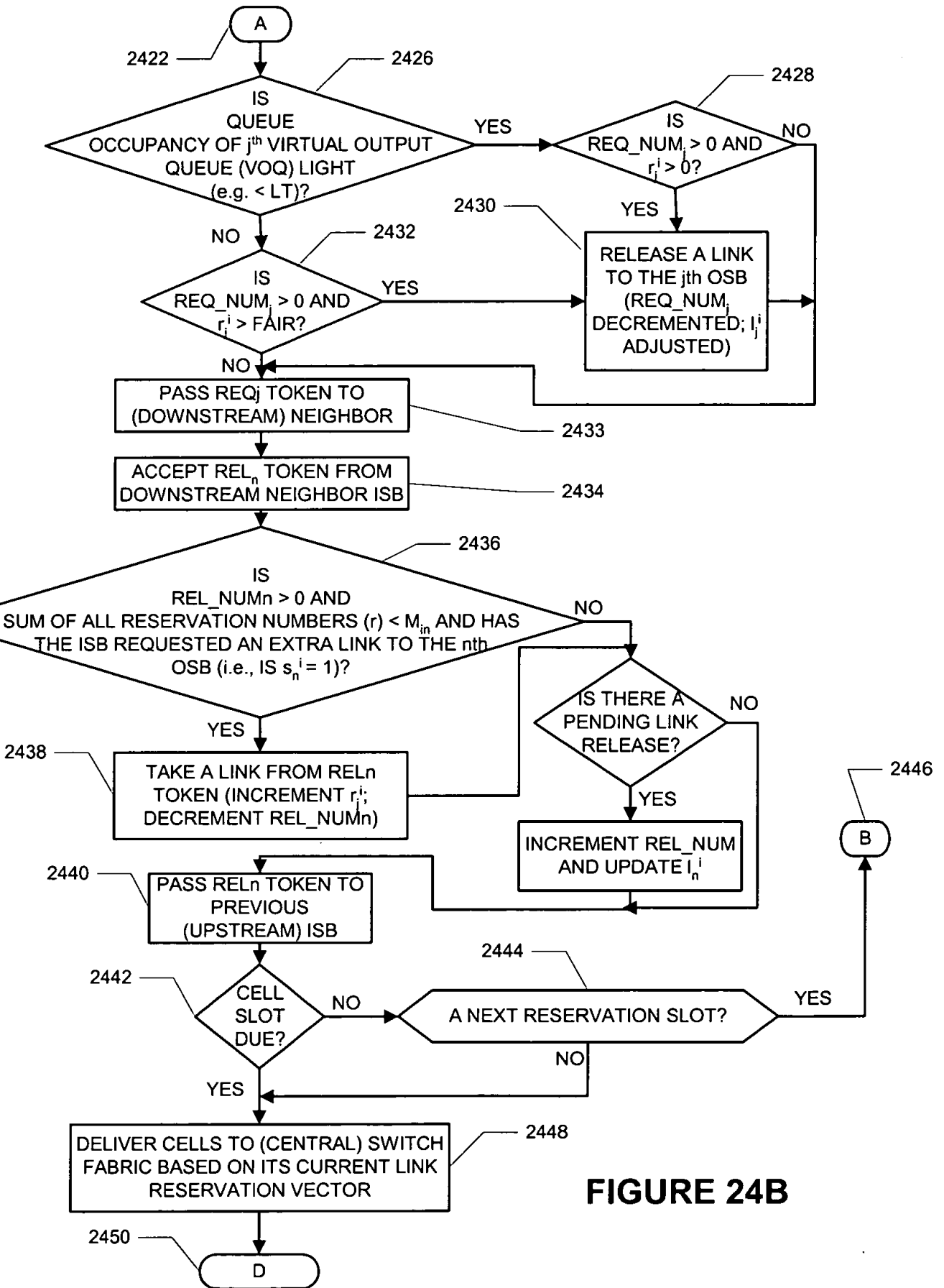
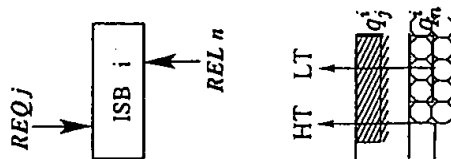


FIGURE 24B

FIGURE 25

| Operation Upon Receiving REQ j (QOBDLR) | Queue Occupancy | | |
|--|--|---|---|
| | $q_j < LT$ (area 1: light load) | $LT \leq q_j < HT$ (area 2: normal load) | $q_j > HT$ (area 3: heavy load) |
| Operations Upon Receiving REL n (QOBDLR) | the i^{th} ISB will request 0 extra link to the j^{th} OSB; if ((REQ_NUM _j > 0) and ($\tau_j^i > 0$)) then the ISB will release a link for OSB j ; | the i^{th} ISB will request 1 extra link to the j^{th} OSB ; if ((REQ_NUM _j > 0) and ($\tau_j^i > Fair$)) then the ISB will release a link for OSB j ; | the i^{th} ISB will request 1 extra link to the j^{th} OSB ; if (REL_NUM _n > 0) and ($\sum_{l=0}^{(k-1)} \tau_l^i < M$) then the i^{th} ISB will take a link from REL _n token ; |
| | if (($\tau_n^i > Fair$) or ($\tau_n^i > q_n^i$)) then the ISB will release a link for OSB n ; | if (REL_NUM _n > 0) and ($\sum_{l=0}^{(k-1)} \tau_l^i < M$) and (the ISB has requested a link to the n^{th} OSB) then the i^{th} ISB will take a link from REL _n token ; | if (REL_NUM _n > 0) and ($\sum_{l=0}^{(k-1)} \tau_l^i < M$) then the i^{th} ISB will take a link from REL _n token ; |



035387-0300

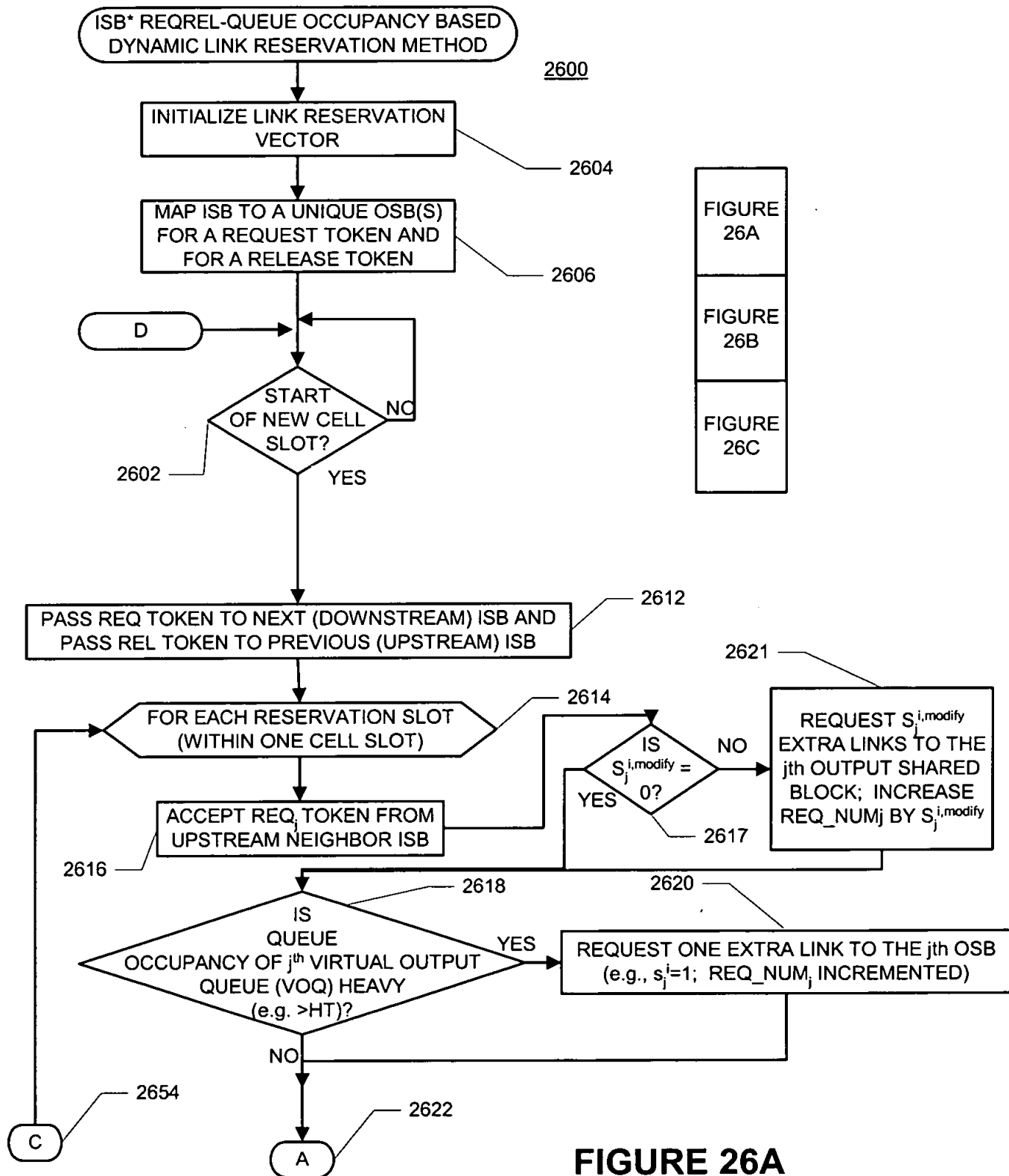
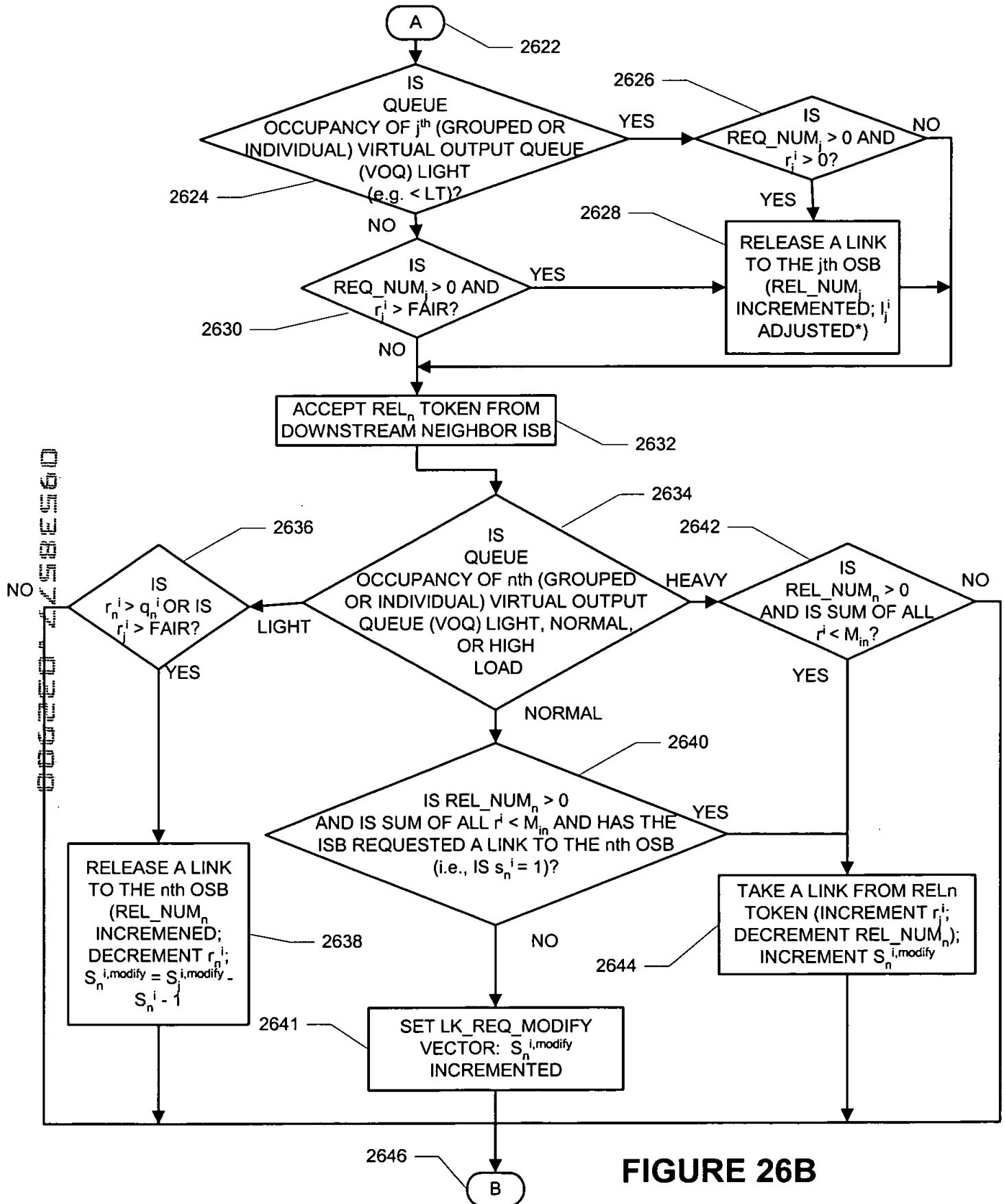


FIGURE 26A



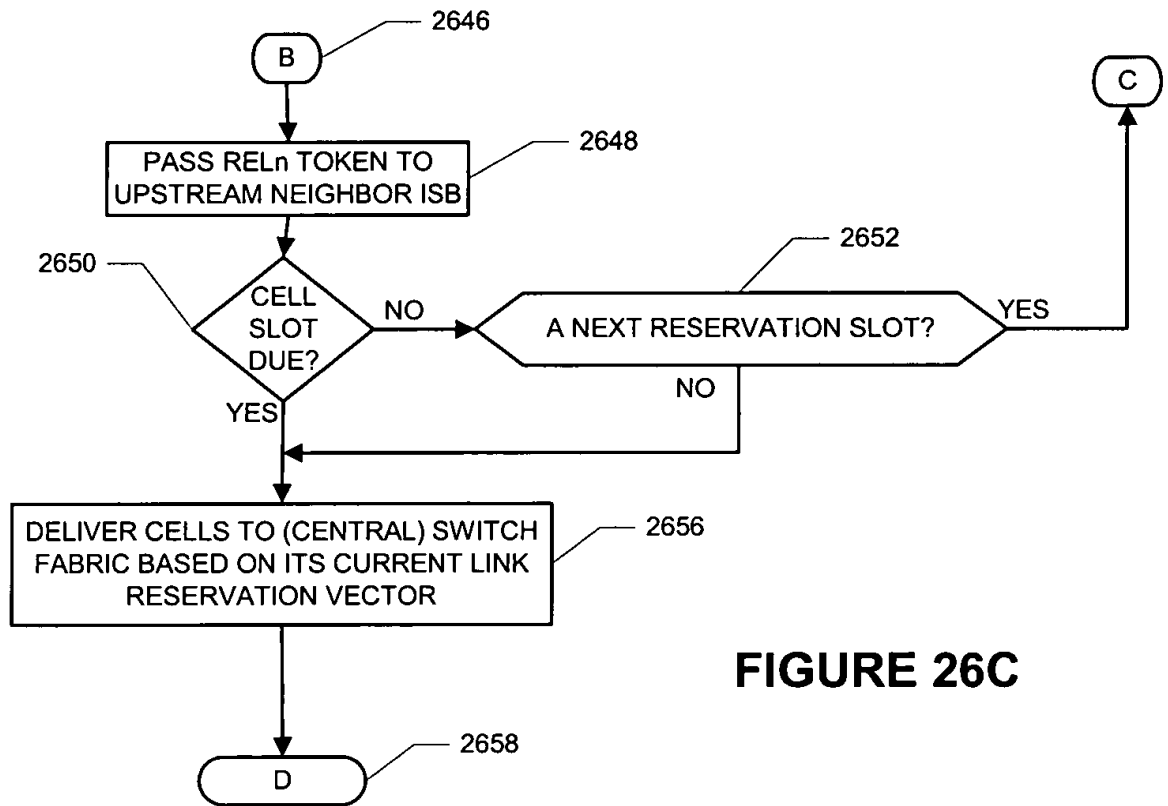


FIGURE 26C